

REMARKS

Applicants have added new claims 27 and 28 to recite a mass ratio ranging from 82/18 to 99/1. Support for the new claims can be found in the specification.¹ No new matter has been introduced.

Upon entry of these amendments, claims 1-28 will be pending and under examination. Applicants respectfully request that the Examiner reconsider this application, as amended, in view of the following remarks.

Rejection under 35 U.S.C. § 103 (a)

Claims 1-26 are rejected for obviousness on two grounds. Applicants address each ground independently below.

I

The Examiner rejects claims 1, 4, 6-10, and 22-26 for obviousness, relying on Wada et al., US Patent Application Publication 2006/0276598 (Wada) or Ishizaki, US Patent 7,473,470 (Ishizaki). See the Office Action, page 16, lines 8-9 and page 17, lines 4-5.

Wada is the US national phase of a PCT application, i.e., PCT/JP04/06509, filed on May 7, 2004. Ishizaki was granted on the US nation phase of a PCT application, i.e., PCT/JP05/006551, filed on March 29, 2005.

The present application claims priority to Japanese application 2003-280373 filed on July 25, 2003. Applicants have submitted herewith a verified translation of the above-mentioned Japanese application. This document describes the subject matter covered by claims 1, 4, 6-10, and 22-26. In other words, these claims are entitled to the July 25, 2003 priority date. Since this priority date is earlier than the PCT filing dates of Wada and Ishizaki (i.e., May 7, 2004, and March 29, 2005, respectively), these two references

¹ The specification discloses a ratio of 50/50-99/1 (page 6, line 5) and provides an example, i.e., Example 1, in which a composition containing Zn oxide and Si/Al oxide at a ratio of 82/18 was used (page 66, lines 15-29). In compliance with the ruling of *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976), these teachings support a claim limitation to between 82/18 and 99/1. More specifically, in *Wertheim*, the original specification describes a range of "25%- 60%" and includes a specific example of "36%." The court ruled that a corresponding new claim limitation to "between 35% and 60%," not even between 36% and 60%, did meet the description requirement.

do not qualify as prior art against the present application. Applicants therefore respectfully request that the rejection be removed.

II

The Examiner rejects claims 1-26 for obviousness, relying on Takai, US Patent 6,284,362 (Takai) and Yamada et al., European Patent 0,282,287 (Yamada). See the Office Action, page 11, lines 15-16. Independent claims 1 and 10 are discussed first.

Claim 1 covers a water-absorbent resin composition having a capacity (absorption capability) of absorbing a 0.90 mass% sodium chloride solution at the amount of not less than 20 g/g. This composition contains a water-absorbent resin and a Zn-Si/Al oxide complex.

Takai teaches a water-absorbent composition containing a hydrogel resin capable of absorbing more than 25 g/g physiological salt (i.e., an absorption capability higher than 25 g/g) and an inorganic metal oxide microfiller. The microfiller can be an oxide of silicon, aluminum, iron, titanium, magnesium, or zirconium. Unlike claim 1, this reference does not teach or suggest using a Zn-Si/Al oxide complex.

Yamada teaches a combination of a polymer absorbent power and a metal oxide deodorant made of SiO₂, ZnO, and optionally Al₂O₃. See page 4, lines 11-13. Unlike claim 1, this reference does not disclose a composition having an absorption capability not less than 20 g/g.

In short, neither Takai nor Yamada teaches or suggests the features required by claim 1, i.e., (1) a water-absorbent resin having an absorption capability not less than 20 g/g, and (2) a Zn-Si/Al oxide complex. Yet, the Examiner appears to take the position that it would have been obvious to one skilled in the art to combine the teachings of Takai and Yamada to arrive at the composition of claim 1.

Applicants would like to point out that even if a prima facie case of obviousness against claim 1 had been established (which they do not concede), it can be successfully rebutted by a showing of an unexpected result provided in the Specification.

The specification describes 11 compositions denoted as Examples 1-11. See pages 66-69. All of these compositions had absorption ratios not less than 20 g/g and contained a Zn-Si/Al oxide complex. In other words, they are covered by claim 1. As shown in Table 2 on pages 76-77, all of these compositions had excellent deodorizing effect, i.e., after 30 minutes of absorption, no more than 6 ppm hydrogen sulfide remained in the residue. By contrast, the compositions denoted as Comparative Examples 1-3 and 9-11 had significantly lower deodorizing effect. Also see Table 2. More specifically, 10 ppm or more hydrogen sulfide remained in the residue after absorption with these compositions for 30 minutes. Of note, Comparative Example 1-3 contained a Zn-Si/Al oxide complex, but had an absorption ratio less than 20 g/g. They correspond to the Yamada composition. Comparative Examples 9-11 each contained one of ZnO, SiO₂, and Al₂O₃ and had an absorption capability higher than 25 g/g. They correspond to the Takai composition.

In short, the compositions covered by claim 1 more effectively absorb hydrogen sulfide than those disclosed in Takai and Yamada. Given this unexpected advantage, claim 1 is not rendered obvious by Takai and Yamada.

Applicants now turn to claim 10. This claim covers a method for producing water-absorbent resin composition. Like claim 1, it requires (1) a water-absorbent resin having an absorption capability not less than 20 g/g, and (2) a Zn-Si/Al oxide complex. Since the composition of claim 1 having these two features is not obvious over Takai and Yamada (see discussion above), the method of preparing such a composition is also not obvious.

For the same reasons set forth above, claims 2-6 and 22-24, all dependent from claim 1, and claims 25 and 26, all dependent from claim 10, are also not rendered obvious by Takai and Yamada.

Double-Patenting rejection

The Examiner rejects claims 1, 4, 6-10, and 22-26 for obviousness-type rejection, relying on (1) claims 1-4, 6, 21-22, 24, 26, and 27-29 of copending Application No.

10/555,707, (2) claims 1-6, 10, 12, 14, and 18-25 of copending Application No. 10/570,965, (3) claims 1-5, 9, and 10 of copending Application No. 11/662,590, and (4) claims 1, 6, 11-15 of US Patent No. 7,473,470. Applicants would like to address this double-patenting issue after the Examiner has removed the obviousness rejection discussed above.

New claims

New claims 27 and 28 each recite that a mass ratio of Zn oxide to Si/Al oxide ranging from 82/18 to 99/1. This subject matter is described in Japanese application 2003-280373, to which the present application claims priority. See its English translation submitted herewith, page 10, line 1 and page 68, line 3. Thus, claims 27 and 28 are entitled to the July 25, 2003 priority date, i.e., the filing date of that Japanese application. Since this priority date is earlier than the PCT filing date for Wada and Ishizaki (i.e., May 7, 2004, and March 29, 2005, respectively), these two references do not constitute prior art against claims 27 and 28.

Moreover, new claims 27 and 28 are patentable over Takai and Yamada for the same reasons that claims 1 and 10, from which claims 27 and 28 depend, are patentable.

Applicants would also like to point out an additional and independent ground on which claims 27 and 28 are distinguishable from Takai and Yamada. These two claims require a mass ratio of Zn oxide to Si/Al oxide ranging from 82/18 to 99/1. Neither Takai nor Yamada teaches or suggests any mass ratio falling within this range. Takai fails to disclose a combination of Zn oxide and Si/Al oxide, let alone their ratio. Yamada teaches a composition having "5-60 mole%, preferably 15-55 mole% of ZnO, 5 to 80 mole%, preferably 25-75 mole% of SiO₂, and 0-60 mole%, preferably 0 to 45 mole% of Al₂O₃." See page 4, lines 11-13. According to the Examiner's calculation, this composition contains less than 67 mass% ZnO. See the Office Action, page 12, lines 13-14. To the extent that Yamada prefers less than 67 mass% ZnO in its composition, this reference teaches away from a mass ratio of 82/18 to 99/1 (corresponding to 82 mass% ZnO or

higher) recited in claims 27 and 28. Thus, claims 27 and 28 are patentable over Takai and Yamada on this additional and independent ground.

CONCLUSION

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

Please apply any other charges or credits to Deposit Account No. 50-4189, referencing Attorney Docket No. 60004-111US1.

Respectfully submitted,

Date: _____

3-31-09



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